

INDUSTRIAL TRAINING IN PUBLIC ELEMENTARY SCHOOLS,

BY

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1891-1905.*

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INDUSTRIAL TRAINING

IN

PUBLIC ELEMENTARY SCHOOLS.

Education in Special and Industrial Schools.

1. The education in the London County Council's Special and Industrial schools aims at developing what is best in the children, and as far as possible, in supplying what is wanting in their moral, mental, and physical nature. Where practicable, instruction is given to enable them, after leaving school, to support themselves as honest and respectable citizens. X

2. In the Blind Schools instruction is given to the boys in basket-making, chair-caning, and typewriting, and the girls learn cookery and laundry work. 1

3. In the Deaf Schools the boys are taught joinery, cabinet-making, shoe-making and tailoring, and the girls receive instruction in dress-making, fancy needlework, cookery and laundry work.

4. The Physically Defective Children are occupied in drawing, designing, wood carving, rug making, needlework and knitting.

5. Employment is found for the Mentally Defective in basket weaving, rug making, knitting, needlework, macramé work, woodwork, cookery and laundry work.

6. In the Industrial Schools, boys are trained for the following callings, viz. :—Sailors in the Royal Navy, or Mercantile Marine, bandsmen for the Army or Navy, farmers, gardeners, shoemakers, tailors, cooks, bakers, bricklayers, carpenters, painters, glaziers, plumbers, smiths, engineers, gas fitters, white-smiths and printers. The girls are taught cookery, laundry work, housewifery, needlework and knitting.

7. Competition with the able-bodied by those handicapped by physical infirmity must always be a terrible struggle, but this is hardly the case with the boys trained in a Reformatory or Industrial School. No

doubt, the son of unknown or disreputable parents has few friends, and is without the help given by masters and men to the son of the respectable workman; but on the other hand his industrial training gives him an advantage in seeking work, for apprenticeship without fee, at a lower fee, at a better wage, or for a shorter time. The children in the Reformatory and Industrial Schools may be properly regarded as children of the State, the unhappy victims of bad parents. They must be helped, and not allowed vicariously to expiate the faults of their parents. At the same time it seems neither economical in the interests of the State, nor just to the individual, that advantages given to the children of the disreputable should be denied to the children of worthy citizens.

Elementary Industrial Training in Public Elementary Schools.

8. Something analogous to the elementary Industrial Training now given in the Industrial Schools should be extended to the children of London in the ordinary Public Elementary Schools. The children in these schools were on the 31st day of March, 1906:—

	Boys.	Girls.	Infants.	Total.
In 532 Council, or Provided Schools ...	180,069	178,603	195,090	553,762
In 435 Non-Provided and other efficient Schools	59,914	63,012	63,568	186,494
	239,983	241,615	258,658	740,256

Manual Training in Board Schools.

9. In the year 1890 through the energy and tact of Mr. J. R. Diggle, then Chairman, and Sir Philip Magnus, a member of the School Board, and the liberality of the City and Guilds of London Technical Institute, and the Drapers' Company, experiments in Manual Training commenced in 1888 in a few schools of the Board, resulted in the introduction of the subject into the School Course under the code of the Education Department. This practical training was the first step to add life and substance to the literary teaching in the Boys' Schools. A further step is now needed to give the workers in the manual training classes a definite object in their work.

Proposed Industrial Classes in Elementary Schools.

10. The object of manual training is to teach accuracy in thought and action, by the training of the hand and eye, and the tools used in the building trade, the largest handicraft of the country, are specially convenient. It is essential that all boys should go through a course of

manual training, but the more advanced might in many cases be better employed in continuing their education in accuracy, by the observance of the rules, and by the use of the tools of other handicrafts, and could with advantage be promoted to special elementary classes in suitable industries.

11. The proposed Industrial and Technical classes would usefully employ children for part time during the last year of the school course, but no child should be admitted to these classes under 13 years of age.

Chief Productive Industries in London.

12. The great majority of the boys and girls when they leave school enter one or other of the great Productive Industries of London, in which the number of workers, and the principal centres of their residence were, according to the census of 1901, as follows:—

DRESS—220,000.

Tailors, Milliners, Dressmakers.	Stepney, Marylebone, Westminster, Paddington, Chelsea.
Shoemakers.	Bethnal Green, Stepney, Shoreditch, Hackney, Southwark, City of London, Marylebone.

BUILDING—143,000.

Carpenters, Joiners, Bricklayers.	Fulham, Battersea, Hammersmith, Woolwich, Wandsworth, Lewisham, Paddington, Camberwell, Lambeth, Deptford, Chelsea.
Painters, Decorators, Glaziers.	Chelsea, Hammersmith, Fulham, Marylebone, Paddington, St. Pancras, Battersea, Kensington, Islington, Camberwell, Lambeth.
Plumbers.	Fulham, Hammersmith, Battersea, Wandsworth, Lewisham, Chelsea, Paddington.

PRINTING—96,000.

Printers and Lithographers.	Southwark, Finsbury, Holborn, Camberwell, Shoreditch, Lambeth, Islington, Hackney, Stoke Newington.
Bookbinders.	Finsbury, Shoreditch, Southwark, Islington, Hackney, Holborn, Bethnal Green

ENGINEERING AND MACHINE MAKING—94,000.

Blacksmiths, Fitters, &c.	Woolwich, Greenwich, Deptford, Poplar.
Metal Trades.	Bermondsey, Finsbury, Poplar, Shoreditch, Southwark, Woolwich.
Shipbuilding.	Poplar.

FURNITURE—62,000.

Cabinet Makers and French Polishers	Bethnal Green, Shoreditch, Hackney, St. Pancras, Stepney, Finsbury, Islington, Stoke Newington
Upholsterers.	St. Pancras, Bethnal Green, Shoreditch, Marylebone, Paddington, Hackney, Islington.

PRECIOUS METALS, WATCHMAKING AND INSTRUMENTS—39,000.

Gold and Silversmiths, Jewellers and Watchmakers.	Finsbury, Islington, Stoke Newington, St. Pancras, Holborn
Electric Apparatus Makers.	Greenwich, Islington, Lambeth, St. Pancras, Woolwich, Wandsworth, Hammersmith, Fulham.

SKIN AND LEATHER. HAIR AND FEATHER—27,000.

Leatherworkers.	Bermondsey.
Saddlers and Harness Makers.	St. Pancras, Stepney, Southwark, Islington, Shoreditch, Camberwell, Lambeth.
Hair and Feather Workers.	Southwark, Hackney, Bethnal Green, Islington, Stepney, Camberwell.

CHEMICAL—20,000.**TEXTILE—15,000.****FOOD, TOBACCO, DRINK, AND LODGINGS—188,000.****Workers in Productive Industries in London.**

13. The workers in the above industries may be placed in three groups, viz. :—(1) those engaged in trades where goods are entirely produced by machinery, and the workers are merely machine tenders; (2) those where they work in gangs under highly skilled managers; and (3) those trades in which small numbers work with a foreman, where the custom of apprenticeship obtains, and which are in fact handicrafts. It is only for the benefit of boys and girls who will engage in this last group of industries, and as a means of encouraging them to do so that elementary industrial instruction can usefully be given,

14. The elementary teaching needed in every industry is common to all the handicrafts it comprises. A clear knowledge of the principles common to a group of cognate trades is most valuable in giving the power of adaptation from one branch to another which may be needed by changes in industrial conditions and methods of production. It is the ignorance of these fundamental principles that is such an important factor in increasing the number of unemployed when changes in industries occur. The teaching of the engineer leads to the making of guns and motors. The carpenter will easily learn to make cabinets, ladders, picture frames and cricket bats. To make a saddle, a portmanteau and a football, requires a like grounding. It is this common grounding in principles, and not special trade instruction which must be given in the Elementary Schools.

Handicrafts representative of Productive Industries of London.

15. The handicrafts representative of the industries above-mentioned are as follows for Boys and Girls :—

BOYS.

- / Tailors.
- / Shoemakers.
- / Hatters.
- / Carpenters and Joiners.
- 5 Bricklayers and Brick-cutters.
- / Painters, Decorators and Glaziers.
- / Plumbers
- / Plasterers.
- / Gasfitters.
- 10 Printers.
- / Bookbinders.
- / Blacksmiths.
- / Fitters.
- Tin and Iron Plate Workers.
- 15 Coppersmiths.
- Shipwrights.
- Wheelwrights.
- Cabinet Makers.
- French Polishers.
- 20 Upholsterers.
- Wood Carvers and Gilders.
- Metal Workers.
- Watch Makers.
- Electrical Apparatus Makers.
- 25 Saddlers and Harness Makers.
- Bakers.
- Confectioners.

GIRLS.

- / Tailors.
- / Waistcoat Makers.
- / Milliners,
- / Dressmakers.
- 5 Shoemakers.
- 6 Hatters.
- / Corset Makers.
- / Artificial Flower Makers.
- / Painters, Decorators and Glaziers.
- 10 Printers.
- / Bookbinders.
- French Polishers.
- ' Upholsterers.
- ' Wood Carvers and Gilders.
- 15 Metal Workers.
- ' Watch Makers.
- ' Electrical Apparatus Makers.
- Confectioners.

Proposed Industrial Training.

16. The proposed industrial training, combined with a more practical method of instruction in arithmetic, drawing and design (*see Appendix I.*), in carrying a step further the practical education of the Manual Training Classes, would further stimulate the imagination, and increase the ability of the clever, and of the average child, *and would often awaken the latent capacity of those on whom the ordinary teaching of the school makes little impression.*

17. Work in wood and iron would give the opportunity for the growth of the artisan into the artist, and of the carpenter and fitter into the architect and engineer. The teaching would serve as a most valuable introduction to the more advanced instruction of the Polytechnic and

Technical Institutes—at the present time, much retarded by the ineptitude of the Public Elementary Scholars—and would extend to all London children the advantages of obtaining employment on the easier conditions and better terms now enjoyed by those leaving Reformatory and Industrial Schools.

18. Perhaps one of the greatest advantages of the proposed Elementary Industrial Instruction would be its effect on the parents. To many of them much of the present literary teaching is taken on trust. The practical training would probably be accepted with ready approval, with the result of the continuance of the children at school for an additional year.

19. The object of the proposed Industrial Training in the Elementary Schools is to draw out the abilities of the children by stimulating their imagination, to give substantial form to their literary teaching, and thereby to render the occupation of the handicraftsman more interesting and more efficient.

20. The proposed classes might result in the recognition of the “dignity of labour,” and in the perception that the work of a skilled artisan is as worthy as that of a clerk, and more stimulating to the intellect.

21. In London especially where the custom of apprenticeship has fallen into disuse, and where all trades are so largely recruited from the country districts, it is of the first importance to provide industrial training for London children. The boy who has acquired a competent knowledge of the fundamental principles of the industry which includes his special handicraft will be more readily received by the employer who now declines an apprentice on the ground that there is no room for a beginner in the highly rented workshops of London.

Essentials to Conduct of Classes.

22. *For successful conduct of the classes three things are absolutely essential: (1) The industrial training must be strictly elementary but thorough, with no thought of the Class as a substitute for apprenticeship, and free from the danger of turning out inefficient and cheap tradesmen, always bearing in mind that a trade can only be taught in a shop, and aiming only at laying the foundation for apprenticeship, and for further teaching in a Technical Institute. (2) The classes must be representative of the industries of the locality, and the numbers in the classes proportionate to the numbers of the industries. The necessary information can be obtained from the trade societies whose cordial co-operation in the establish-*

ment of classes must be obtained. In this relation it is most desirable that members of the industry should be on the list of Managers of the Schools.
 (3) *The admission of a child to an industrial class must be with the approval of its parents.*

Use of Polytechnic Continuation Day Schools.

23. A supply of properly qualified teachers will be the first need. An experiment might be made in the first place most economically and efficiently, by means of Scholarships from the Elementary Schools to the Polytechnic Continuation Day Schools, with their trained staff and efficient workshop fittings, on somewhat similar lines to the County Council Scholarships for boys interested in the woodwork trades at the Shoreditch Technical Institute.

Non-Productive but Distributive Industries.

24. There are two great non-productive but distributive industries in London, which must also be considered. Domestic service occupies 382,000 persons, and commercial and business clerks in London number 103,000.

Domestic Service.

25. The excellent provision for training in domestic economy, which has for many years existed in the Elementary Schools, was not primarily intended as a preparation for domestic service, but to teach the management of their homes to the future wives and mothers of London. This training, which includes cookery, laundry work and housewifery, must of course continue, though it is doubtful whether instruction in these subjects to girls under the age of 12 years, spread over 2 or 3 years by lessons of one half-day a week, is profitable, whilst there is no doubt that it causes considerable difficulty in the general work of the school.

26. A better plan would seem to be to postpone this instruction till the age of 12½ years and then give it daily to every girl for half of her school time. The advanced girls in the Domestic Economy Classes would at the age of 13 be promoted into some of the industrial classes suitable for their sex, but those who prefer it could be transferred to a special class intended to prepare for domestic service.

Clerks.

27. The children of both sexes who propose to follow the calling of a clerk could, at the age of 13, after the completion of a course of manual training or domestic economy respectively, be admitted to classes where

special attention was given to commercial arithmetic, book-keeping, type-writing, shorthand, the elementary teaching of one foreign language and other instruction suitable as the foundation for the further teaching of a Technical Institute.

Opposition to Proposed Classes.

28. There will of course be opposition to the proposed industrial classes from very contrary points of view, viz. :—from those who think highly of education and from those who have no thought of it at all. The first order of mind would spare neither time nor money in giving the best education, but still clings to the idea of strengthening the memory rather than stimulating the imagination, and prefers the literary teaching of the school room to the practical teaching of the workshop, perhaps from failure to recognise that the workshop teaching of to-day is no longer by rule of thumb, but is in every sense educational in drawing out the best thought and requiring the most accurate work of the child.

29. The other order of mind possessed very generally by members of both of our Houses of Parliament, and fairly representative of the English upper and middle classes, still regards education as a luxury fitted for the few, with no essential concern with the happiness and prosperity of the country, and either to be provided by private means or private charity, or to be supplied as a matter of grace out of any public money not required for other purposes.

Economical Expenditure.

30. The introduction of Elementary Industrial Instruction into the Public Elementary Schools would necessarily add considerably to the cost of London Education, but the economy of such instruction is apparent after consideration of the success of the traders of Germany and the United States in competition with Great Britain and Ireland, resulting from their better national education.

APPENDIX I.

Copy of a letter to the Chairman of the Education Committee of the London County Council by EDRIC BAYLEY, L.C.C.

25, PHILLIMORE GARDENS, W.

17TH SEPTEMBER, 1904.

To

SIR W. J. COLLINS, M.D , D.L., J.P., L.C.C.,

CHAIRMAN OF THE EDUCATION COMMITTEE

OF THE LONDON COUNTY COUNCIL.

DEAR SIR WILLIAM,

As Chairman of the Borough Polytechnic Institute during the last twelve years, my attention has been constantly called to the difficulties caused in Technical Classes by the ignorance of the Students of the Arithmetic most wanted in these classes, or what may be called Workshop Arithmetic. Many of the Students have a knowledge of Commercial Arithmetic, such as Bills of Parcels, Interest, Averages, Discounts, Percentage, and Stocks, very suitable for the instruction of Clerks, but of no use to the enormous majority of the children in the Public Elementary Schools, who will, or who ought to follow industrial callings.

I think that the present course of instruction in Arithmetic in the Schools does not sufficiently consider the wants of the Industrial Classes, and I would venture to suggest that the question of this instruction should be referred to the Educational Adviser for his observations.

I have asked Mr. C. T. Millis, M.I.Mech.E., Educational Principal of the Borough Polytechnic Institute, who has given much thought to Workshop Arithmetic, to prepare a short Memorandum on the subject, a copy of which I enclose.

Believe me, yours very truly,

EDRIC BAYLEY,

Memorandum by C. T. MILLIS, Esq., M.I.Mech.E.

(Education Principal Borough Polytechnic Institute).

Referred to in the above letter.

In view of the fact that there are now opportunities for co-ordinating the work of Elementary Schools, Continuation Schools, and Technical Institutes in London, it seems desirable to consider what may be done for the teaching of at least one troublesome branch of education,—Arithmetic. This subject can be taught in connection with Geometry with the object of making it interesting, and at the same time forming a foundation suitable for the conditions and future work of the pupils. A certain amount of reform in the teaching of Arithmetic would be useful to both boys and girls, and would enable them to pass on step by step from one school to another and find a sequence in their work. To accomplish this some modification of the work of Elementary Schools would be required, and moreover the necessity for this is emphasized by the fact that manual training is now a recognised branch of study in all schools, and such work could be begun in a simple form at an earlier age than at present, say from the kindergarten stage, but to do this and obtain the greatest value from manual training in whatever form it may be given it must be co-ordinated with the general work of the school. This can best be done by starting from the teaching of arithmetic and geometry and putting experimental or manual work in connection with such teaching. The elementary portions of geometry can be taught at an early age to illustrate arithmetic and should not be treated as a separate subject; if this were done the interest and intelligence of the majority of the pupils would be better developed and much better results would be obtained in the work of Continuation Schools.

All who have had to do with the work of Continuation Schools and Technical Institutes agree that many of the difficulties which exist are due to the want of connection between the mathematics of the Elementary School and those of the Continuation School and Technical Institute—in other words the absence of co-ordination.

What is needed is that some of the time which is now spent in teaching special rules in money sums should be devoted to giving a sound knowledge of general principles of arithmetic (decimals and proportion), and of geometry; deferring until a much later age the teaching of special commercial money rules, and then only to those pupils who are likely to be employed in work of a clerical character, when such money rules become technical, and are the application of the general principles of

arithmetic in the same way that estimating and taking out quantities for building, engineering, and other trade work are the applications of arithmetic for boys who go into various trades. A further argument in favour of the exclusion of special commercial rules, is that a very large proportion of the pupils of Elementary Schools in London should be going into trades of various kinds, and a different preparation is needed for such pupils from that of scholars in Secondary Schools who are being primarily trained for work of a professional or clerical character. These remarks apply with equal force to girls as to boys, especially to those girls who are likely to be trained for Dressmaking, Upholstery, and other trades, for all of which a knowledge of arithmetic and geometry on better lines would be a decided advantage. Lastly, such reform would lead up to the science work which may be given at a later age and would assist pupils who desire to pass on as day scholars from one school to another of a higher grade, and the transmission from the one school to the other would be more natural, and therefore easier to the pupils than it is at present.

APPENDIX II.

Copy of a letter to the Chairman of the London County Council on Industrial Training in Public Elementary Schools, by EDRIC BAYLEY.

25, PHILLIMORE GARDENS, W.

June, 1907.

To

HENRY PERCY HARRIS, ESQ.,

CHAIRMAN OF THE LONDON COUNTY COUNCIL.

DEAR MR. HARRIS,

1. I beg to call your attention to the time tables of the higher elementary schools now being considered by the Education Committee of the Council, with a view to their submission for the approval of the Board of Education in compliance with the New Regulations contained in the Code recently issued by the Board, and to express a hope that further consideration may be given to the proposed provision of special instruction bearing on the future occupations of the scholars.

2. The New Regulations as to higher elementary schools contained in the Code issued by the Board of Education for the year 1905, which are still in force, state (1) that the instruction given in these schools will be of two kinds, a development of the work of the elementary school, and an introduction of work of a special and practical character; (2) that the determination of the curriculum for schools will be left to local consideration subject to the approval by the Board, (3) that the needs of different localities, of boys and girls in the same school, of different parts of the area of the same Local Education Authority, or of the different industrial or commercial authorities of the same town, may thus obtain due consideration; and that (4) the Board will have regard, among other things, to the following principles, but these will not be so applied as to prevent the conduct of experiments for which good reason can be shown.

“(iii.) In respect of the special side of the curriculum, the schools will necessarily fall into two main types according as the

pupils look to the productive or the distributive side of trade for their future occupations, and the possibility of providing alternative practical courses in one and the same school may be worth consideration. Under each head there may be various types of courses suggested according to circumstances. In some cases the chief local industries may demand fine workmanship. In others, a high degree of manual skill may be less important than the power to use machinery or to handle materials used in construction, and to carry out the details of a design. In some industries a knowledge of the elements of chemistry and physics, and dexterity in the use and construction of apparatus may be of constant use to the beginner. Similarly in some centres of commercial activity the demand for a knowledge of some foreign language may be great, in others the course of trade may be mainly with English-speaking countries. In rural districts the needs of agriculture will naturally have considerable influence in determining the character of the practical instruction."

3. The 38th Section of the Code states that before a school can be recognised as a higher elementary school the following conditions among others must be fulfilled.

"(iv.) The curriculum must have for its object the development of the education given in the ordinary public elementary school, and the provision of special instruction bearing on the future occupation of the scholars, whether boys or girls. A curriculum will not be approved unless it provides, together with this special instruction a progressive course of study in the English Language and Literature, in Elementary Mathematics, and in History and Geography. Drawing or Manual Work must be included in every case as part of the general or special instruction."

"(v.) The premises must be recognised by the Board as suitable for the purpose of a higher elementary school, and must be specially equipped for instruction according to the approved curriculum of the school."

4. On the 17th November, 1905, the Higher Education and Scholarships Sub-Committee of the London County Council submitted to the Council an interesting and valuable Report of the Section of the Sub-Committee appointed to consider the question of apprenticeships.

Under the heading "Industrial training in the elementary school," the Report says: With regard to the curriculum of the ordinary elementary school, we do not think that it comes within the scope of this enquiry to offer any suggestion. But with regard to the higher grade and higher elementary schools we venture to suggest that a definite course of elementary and unspecialised instruction, calculated to prepare boys to enter the workshop of any skilled mechanical trade, should be introduced into the curriculum of some of them. It must be borne in mind that the Council's scheme of County Council Scholarships provides, without limit of number, adequate opportunities for all children considered intellectually fit to profit by a secondary school education. It therefore makes provision for those elementary school children who in the future may be expected to secure the higher positions in the professions and skilled industries. Those who do not win scholarships must therefore be regarded as, in the main, persons who will have to depend on their dexterity to gain a livelihood. Among them are, of course, many who will fill the lower positions in the commercial world, and for them, we assume, that higher grade schools with a commercial turn to the curriculum will be provided. But, apart from this group, the children at the higher grade schools must be expected to enter the skilled occupations of manual labour. It must also be remembered that, as the scheme of higher grade schools becomes completed, they will gradually gather within their walls, in virtue of their "contributory" system, the brightest of the children from the ordinary elementary schools who have failed to win scholarships. They must therefore be regarded as the appropriate nurseries of the more skilled trades. The children are by law permitted to remain at higher elementary schools until the end of the school year in which they reach the age of 15. At present, few avail themselves of this opportunity. But if parents could see that in addition to continuing their education the children were passing through a course of instruction which would secure for them favourable openings on leaving school, we think it probable that many more would be allowed to remain after the age of compulsory attendance was over. The new regulation of the Board of Education with regard to higher elementary schools seems to indicate that its early passion for science is on the wane and that it is prepared to allow greater elasticity in the arrangement of the curriculum. There is, of course, no thought here of suggesting that these schools should be turned into real trade schools. Early specialisation of this kind would be, on every ground, undesirable. All we recommend is that in the consideration of the subjects and methods of instruction, special attention should be given to preparation for the trades which the children are likely to enter. We are all the more anxious to give prominence to this question because at

various times we have been informed by the principals and governors of polytechnics that the children of the public elementary schools come to the technical classes so ill-equipped that much elementary instruction in arithmetic and other subjects has to be given to them. This is, of course, a needless waste of time and a needless waste of money when the expensive equipment of a polytechnic is taken into account. This lack of the necessary elementary knowledge in no way reflects on the teachers of the public elementary schools, who cannot be expected to adapt their instruction to needs of whose existence they have not been made aware. But it does give weight to our recommendation that the special requirements of industry should be remembered by those who supervise the curriculum of the higher grade school."

5. The Report, after quotations from a pamphlet published by me on "Industrial Training in Public Elementary Schools" (a copy of the second edition of which I have the honour to enclose), continues "We are of opinion that, while there are at present difficulties in the way of introducing such a course of instruction in the curriculum of the ordinary public elementary school, certain of the higher elementary and higher grade schools would provide an admirable field for an experiment of this character."

6. The Council on the 24th July, 1906, decided that time tables in respect of 27 Council schools should be submitted to the Board of Education with a view to the schools being recognised as higher elementary schools. The Board in reply suggested for the consideration of the Council certain points in regard to the curricula of the schools. These points, amongst others, were (iii) as to the desirableness of including Instruction in Handicraft in the time tables and (iv) as to the doubtfulness of including Shorthand or Book-keeping. The Council decided to reply that they thought in regard to (iii) that no boy should leave the higher elementary school without having gone through a complete course of not less than two years Manual Instruction and with regard to (iv) that the teaching of arithmetic in its commercial application should be substituted for instruction in technical systems of Book-keeping.

7. Of the time tables for the 27 schools, 17 (4 boys, 9 girls, 4 mixed) provide for general education only, 4 (2 boys, 2 girls), make provision for commercial or industrial education, 3 (girls), for commercial or domestic education, 2 (boys), for commercial education and 1 (boys) for industrial education. As the persons engaged in the handicrafts of London number 700,000 while commerce and domestic service occupy 150,000 and 380,000 respectively, the provision for industrial education is

clearly insufficient. Moreover, the industrial education proposed needs further consideration. In reply to point (iii) suggested by the Board, viz.:—"Instruction in Handicraft" the Council offers Manual Instruction. By "Handicraft" the Board probably refers to the Special Subject mentioned in the Regulations, which should certainly be taken in some of the schools, but it may mean the instruction of a special and practical character bearing on the future occupation of the scholars in local industries, a requirement of the Regulations which has apparently been overlooked in drafting the time tables. With regard to (iv) the Council does not sufficiently recognise that it is not commercial arithmetic but workshop arithmetic and geometry which are needed by the great majority of the children leaving the schools who will be engaged in handicrafts.

8. In the XIXth Century Review, of March, the late Sir Michael Forster wrote: "The state of elementary education at the present day is such as to have led to the widespread conviction that the system is failing to effect satisfactorily that which it was intended to effect, namely, to equip the children of the lower classes for the occupation which they would probably have to follow." This conviction will be strengthened by the proposed curriculum of the higher elementary schools. Hopes were entertained that Industrial Training would replace Science teaching in these schools but we are asked to be satisfied with Manual Instruction. This subject introduced into the schools in 1890 by the Code of the Education Department was the first step to add life and substance to the literary teaching in the boys' schools. A further step is now needed to give the workers in Manual Training classes a definite object in their work.

9. The object of Manual Training is to teach accuracy in thought and action by the training of the hand and eye, and the tools used in the building trade, the largest handicraft in the country, are specially convenient. It is desirable that all boys should go through a course of Manual Training, but the more advanced might in many cases be better employed in continuing their education in accuracy, by the observance of the rules, and by the use of tools of other handicrafts, and could with advantage be promoted to special classes in suitable industries.

10. In the old times when education fell only to the lot of the upper classes, the Latin language was studied as a necessary requirement for success in life. Now for long years it has been taught, but little learned, as a method of mental discipline. The original reason for its study has ceased and has been forgotten. There is a danger that Manual Instruction may be maintained to teach accuracy to the scholar

and that its essential value as the first step to the making of the workman may be disregarded. Manual Instruction will perhaps become a fetich like Latin with like disastrous results to practical education.

11. The timid answer of the Council to the opportunity offered by the New Regulations of the Board of Education, is a bitter disappointment to those who hoped that at last the over production of clerks would cease, and that the greatest Local Education Authority of the country would deal boldly with the pressing needs of the productive industries of London.

12. I venture to ask the Council seriously to consider their policy with regard to the higher elementary schools with a view to the provision of an increased number of centres for Industrial Education, and of Education of a more practical character by providing general elementary teaching of different industries required by all the handicrafts comprised in such industries respectively, or if that is too much to ask, I hope the Council will act on the opinion of the Sub-Committee of the Higher Elementary and Scholarship Sub-Committee that "certain of the higher elementary and higher grade schools would provide an admirable field for an experiment of this character."

13. Such an experiment should I think bring the elementary schools into close connection with the Polytechnics and Technical Institutes. These Institutions are either entirely supported, or in great part maintained, by the contributions of the Council, but they are not at present as much used as they might be in the interests of both Elementary and Technical Education. They exist in all parts of London and are in most cases provided with Technical Day Schools for Boys. My suggestion is (1) that the Council should select a Public Elementary School in the neighbourhood of each Polytechnic or Technical Institute provided with a Technical Day School; (2) that the Boys in such elementary school should, from 11 to 13 or 14 years of age, be instructed on the lines laid down for the preliminary and first year's work of the technical school; (3) that the brightest boys should, at the age of 13 or 14, be passed into the Technical School by junior county or other scholarships so that they may leave not older than 16, well prepared to enter trades for which they have received suitable training; and (4) that boys not up to scholarship mark who would be far better fitted for industrial pursuits than by their present instruction, should be encouraged to continue their industrial training by free attendance at the Evening Classes of the Technical Institute.

14. Such a system would not only be an advantage to boys in the elementary schools, but would also help the technical schools which are now compelled from the want of suitable preparation in the elementary schools to take children under the age of 13 and 14.

15. If the Council should think fit to make such an experiment as I suggest in the West Southwark Division at the West Square Higher Elementary School, or at some other school or schools in connection with the Borough Polytechnic, I think I can promise that the Governing Body of that Institute will give the Council their cordial assistance to make the experiment the success which I am confident it can be made as a means of giving practical industrial training to the children in the Public Elementary Schools.

I am, Dear Mr. Harris,

Yours very truly,

EDRIC BAYLEY.

APPENDIX III.

BOROUGH POLYTECHNIC INSTITUTE.

TECHNICAL DAY SCHOOL FOR BOYS.

The school was founded for the purpose of giving London boys, by means of a sound training, better opportunities than hitherto of preparing for industrial life and subsequently developing into skilled workers.

To be eligible for admission, boys must be over 12 years of age and have passed Standard VI. of the Elementary School Code, or an equivalent standard. The course of instruction covers three, and in some cases four, years.

The subjects include general English subjects and one modern Foreign language, Practical Mathematics, Geometry, Mechanical and Engineering Drawing, Mechanics, Physics, Chemistry, Workshop Instruction (wood and metal), Physical Exercises.

All boys take the same subjects in the first year. The second year's course can be slightly modified to suit boys who have already decided upon their future trade. In the third year, and, where expedient, in a fourth, boys will specialise and devote considerable attention to workshop and other instruction suitable to the particular trade they intend to follow.

The following table shows the number of hours per week devoted to each subject :—

SUBJECT.	First Year.	Second Year.	Third Year.
English	4	3	2
French	2½	3	—
Practical Mathematics (including Mensuration and Geometry)	5	4	4
Art Drawing... ..	1½	1½	1½
Physics	4	—	—
Chemistry	—	4	—
Electricity	—	—	3½
Geometry and Machine Drawing	4	5	5
Applied Mechanics	—	1½	2½
Workshop Instruction	5	5	8
Physical Exercises	1½	1½	1
	<u>27½</u>	<u>27½</u>	<u>27½</u>

The majority of boys now attending the school intend to take up some branch of engineering, metal work, or similar handicraft; but the course during the second year is, with modifications in the amount of time devoted to Art, Drawing or Chemistry, equally suitable for boys who wish to enter the chemical, bookbinding, tailoring, bakery, confectionery and other trades.

An Advisory Committee of Employers has been formed in order to link the work of the school with the industries of the neighbourhood, so that the boys on leaving may be fitted for entrance at such works, and be readily taken into them.

A number of scholarships are offered by the (1) London County Council; (2) Governors of the Institute. Herold's Technical Exhibitions and Atkins' Trust Exhibitions are also tenable at the school.



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